THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIV. — THURSDAY, APRIL 20, 1876. — NO. 16.

RARE FORM OF MONSTROSITY; CASE OF ACEPHALUS.[1]

BY HENRY TUCK, M. D.,
Visiting Physician of the Boston Lying-In Hospital,

AND J. B. S. JACKSON, M. D.,
Professor of Pathological Anatomy in Harvard University.

A. B., aged thirty-two, about eight months advanced in her first pregnancy, entered the Boston Lying-In Hospital October 24, 1875, at 3.30 P. M. Pains had come on some hours before, and were weak and irregular. Vaginal examination showed the os uteri to be about two thirds dilated, and the membranes protruding therefrom. Presentation was doubtful. At seven P. M. pains became strong and frequent, and breech presentation was easily made out. At 8.30 P. M. membranes were ruptured, and at 9.40 P. M. the breech was born. No pulsation could be felt in cord, and the head was at once delivered. From the maceration and desquamation of the cuticle of the fœtus it had evidently been dead some days. It was a male and weighed four pounds, well formed in every way. An examination then showed the presence of a second child, but the presentation was not made out. For the next hour pains were weak and irregular. Membranes were then ruptured and the case proved to be a footling, the feet presenting, crossed in the vagina. At 10.45 P. M. I first saw the case. Then the left foot was external to the vulva. The right foot was brought down and traction made, but with no effect. A fillet was attached next, and strong traction made, but I was obliged to desist for fear of tearing off the foot. The fingers passed up over the thighs showed just above them a large mass, thought then to be a sacral tumor. The mass seemed of such size and consistency that by strong traction on the feet the fœtus could be delivered. The fillet was then put upon the right foot, and upon traction being made it at once gave way. An attempt was made to deliver the fœtus with forceps, but they slipped, and no hold could be obtained. Ether was given, and another unsuccessful attempt with forceps made. The thighs were then grasped in a towel, and after repeated and most powerful traction by both the house physician and myself, one keeping up pressure over the uterus externally while the

[1] Read before the Boston Society for Medical Improvement.

other pulled upon the thighs, the fœtus was delivered at 11.30 P. M. It was an acephalous monster, and weighed three and a quarter pounds. The placenta not coming away readily by external manipulation or slight traction upon the cord, the hand was introduced into the vagina and the uterus, of which latter organ there was an hour-glass contraction. This was overcome and the placenta delivered. Patient was then given thirty-five drops of the fluid extract of ergot and fifteen drops of laudanum.

October 25th. A. M. Pulse 120; temperature 100.1°. Slept well. Urine had to be drawn with catheter. P. M. Pulse 112; temperature 100.8°. Patient had no further trouble. Sat up on the tenth day, and on the fifteenth was discharged, well.

Description of the Fœtus. — This consisted of a trunk and two lower extremities. The first terminated superiorly in a large, rounded, fleshy mass, as is usual in this form of monstrosity, of which at least four specimens have been examined here, and reported in the printed catalogues of the museums of the Boston Society for Medical Improvement and of the Harvard Medical School. The form of monstrosity being very rare, it seems a large number to have occurred in this vicinity. The extremities were well developed excepting the toes, of which there were four only on each foot, and upon one of them the two smallest were fused. The whole length of the fœtus was ten and a half inches. Upon the anterior face, and four and a half inches from the rounded upper extremity, was a flaccid mass about the size of a pigeon's egg, covered with integument, and that must have represented the head. Upon each side of this mass, and three and one fourth inches apart, was a small but well-marked dimple-like depression in the skin, which probably showed where the upper extremities would have been if they had existed. About an inch below the fleshy mass above described was the umbilical cord, and by the side of it a protrusion of three or four inches of intestine, which had been covered by a thin membrane that had burst.

An inch or two below the umbilicus was a tolerably developed scrotum, but there was neither penis nor anus. The great mass of the trunk, the greatest circumference of which was fifteen inches, external to the skeleton consisted, as is usual in the acephalus, of a coarse fibro-cellular tissue, very tough and very œdematous, but there were besides in the posterior and upper portion a considerable number of cysts lined by a delicate serous-looking membrane, several of which would have held two or three ounces of fluid. These last have not been reported in any of the cases of acephalus that have been dissected here.

Of the internal organs, the heart, lungs, stomach, liver, spleen, and testicles were wanting, as was also the diaphragm. In the thorax was a large quantity of coarse, white, and very tough fibro-cellular tissue,

with less of the same in the abdomen. The aorta, which was of sufficient size, and in its usual relations to the spine, terminated not far below the upper extremity of this last in several small branches, and inferiorly gave off a large hypogastric artery upon the left side, but the right was wanting. There was a small intestine, nineteen and one fourth inches in length, and terminating superiorly in a cul-de-sac; also a large intestine, that seemed to open freely into the fundus of the urinary bladder. The cœcum was about one half of an inch in length, and sufficiently developed, but blunt, as in one of the lower animals, and entirely wanting the tapering appendage that is to form the appendix cœci. A most conspicuous organ in the abdomen was a large kidney and corresponding renal capsule. The first was situated mainly upon the right side, and the last wholly upon the left.

From the kidney, and at some distance apart, arose two ureters, one of which was more than two lines in diameter and ended near the bladder in a cul-de-sac; the other, which was large throughout, dilated at one part and rather suddenly to the size of the end of the forefinger, and finally opened into the bladder not far from the point of entrance of the intestine. The bladder was of an oval form, about the size of a large nutmeg. Its contents, if there were any, were not ascertained, and it was an interesting negative fact that it was neither distended nor thickened, as it has been found to be in some other cases, in which there was no external outlet. When the intestine was cut across and inflated, the air passed freely into the bladder, ureters, and pelvis of the kidney. The question that arose as to this last organ, whether it was to be regarded as a single one or the fusion of two, seems to be an open one.

The skeleton consisted mainly of a spine, thorax, and lower extremities. The first was well developed so far as it extended. Of the cervical vertebræ, however, there were three or four partially fused or irregularly developed, and the lowest one only was normal. Inferiorly the spine terminated in a most remarkable manner, and in the sacral region. This lower portion ended quite bluntly, and the opening of the vertebral canal was fully one fourth of an inch in diameter. The pelvis was well developed, as were the lower extremities, but the ischia were somewhat approximated and connected by a marked fibrous band.

Of the ribs there were thirteen on each side, well developed, but upon the right side, from the second to the fifth inclusive, they were partially fused.

The sternum was formed in two lateral halves and widely separated, but connected upon each side, as is usual with the cartilages of the ribs. Over the upper left rib was a flattened bone of a somewhat triangular form, one fourth of an inch or more in diameter, which undoubtedly

represented the scapula. Also near the upper extremity of the spinal column, and somewhat anterior to it, was a small curved bone somewhat suggesting the body of the hyoid, or perhaps the lower jaw, its length being six lines or more, and its diameter about two lines.

A CASE OF DOUBLE PLEURISY.

BY F. GORDON MORRILL, M. D.

About the middle of May last, F. P., aged twenty-seven, a laboring man, began to suffer from pain in his right side, and experienced considerable difficulty in breathing. He managed, however, to keep about until the latter part of July (although unable to do any work meanwhile), when cough, dyspnœa, and general malaise compelled him to take to his bed. On the 2d of August he entered the City Hospital, where he was treated for a large effusion in the right pleural cavity. On the 19th of September he was discharged, but had to take to his bed again almost immediately. After seven weeks of neglect in a cheap boarding-house, he was admitted to the Carney Hospital on November 18, 1875, at which time his condition was as follows: —

Emaciation very marked; countenance pale, and somewhat livid; appetite very poor; tongue red and irritable-looking; bowels irregular, diarrhœa and constipation alternately; had occasional paroxysms of coughing, at which times he raised small quantities of frothy mucus; had occasional chills, not very well marked. There was no albumen in the urine. Pulse 100, weak. Temperature 102° F. Bad night sweats.

On inspection, no difference could be detected between the two sides of the thorax. On percussion there was absolute flatness over the right back from an inch above the lower angle of the scapula to the base of the lung; in front this flatness extended downwards from an inch below the right nipple. Neither respiratory nor voice sounds could be heard an inch below the line of flatness in front or back. Above this line there was exaggerated resonance on percussion and loud respiration in both front and back. The left back was somewhat dull on percussion over the lower third. There was no friction murmur to be heard anywhere, nor any physical signs which could be regarded as pathognomonic of disease of lung tissue. No alteration in the percussion sounds could be effected by changing the position of the patient. Quinine and stimulants were prescribed, together with as nourishing a diet as the patient could bear.

November 28th. An effusion was now present on the left side, equal in extent to that of the opposite side, and a loud friction murmur was audible over the upper lobe of the left lung in front. Pulse 110. Tem-

perature 103° F. The only sleep which the patient had thus far enjoyed was obtained by large doses of chloral hydrate. Since his entering the hospital a sister of the patient had died of phthisis.

November 29th. In consultation with members of the staff, I drew off with an aspirator four ounces of serum from the right side and eleven from the left. The only available needle was too small to allow free exit to the fluid, which was very coagulable serum. The puncture was made between the seventh and eighth ribs in both instances.

November 31st. No relief from tapping; both effusions as extensive as before the operation.

December 5th. The effusion on the left side had increased greatly during the past two days, and there was complete dullness on percussion over left back from the spine of the scapula downwards. In front there was tympanitic resonance on percussion over the upper portion of the lung as far down as the left nipple; below this point there was complete flatness. The right side seemed to be in about the same condition as when the patient first came under observation. The first sound of the heart was heard most distinctly about an inch from the right border of the sternum. There was intense dyspnœa. Pulse 120, feeble.

The aspirator was again used, and a large needle entered between the ninth and tenth ribs, just behind the angles. One hundred and four ounces had been drawn off when cough and distress on the part of the patient compelled me to desist. The fluid (very coagulable serum, as in the previous instance) was still flowing freely when the needle was withdrawn.

December 6th. Marked relief from tapping; patient slept comparatively well the preceding night. Dyspnœa much less. Pulse 105. Some diarrhœa and tenesmus, for which opiate injections in starch water were prescribed.

December 10th. Patient comfortable but very weak. No signs of a return of the effusion, and no diarrhœa. Pulse 115. Appetite very poor; said he could not eat. Friction sounds could now be heard all over left back above the line of last tapping. The first sound of the heart was now heard most distinctly under the left border of the sternum. The condition of the right side was (so far as could be judged from the physical signs) about the same.

December 30th. No change had taken place worthy of notice, except that the patient's strength seemed gradually failing.

January 15th. Patient died at one A. M., having gradually grown weaker since last entry. Had had very little cough since the last tapping, and apparently died of exhaustion. The following is an account of the post-mortem examination by Dr. E. G. Cutler.

Autopsy fourteen hours after death; marked emaciation; fair amount

of rigor mortis. On opening the abdomen the diaphragm was found to be arched as usual, though the highest point on the right was on a level with the fifth intercostal space, while that on the left was on a level with the fourth rib. The right lung was universally adherent; the thickness of the new membrane at the base of the lung was nearly an inch, and gradually diminished towards the apex; in its removal both the visceral and the parietal layers were taken out with the organ. On section the lung was found studded throughout with grayish-white opaque nodules, ranging in size from a pin's head to the end of the little finger. Many of these nodules presented a distinct depression in the centre, and this was especially marked in the larger nodules. At the apex one or two old empty cavities of small size were seen. At the lower part of the upper lobe were two or three cavities the size of the end of the thumb, filled with a fluid of the color and consistency of custard. The left lung was partially adherent, as follows: at the apex and in front down to the second rib, at the side down to the third rib, and behind it was adherent from apex to base. The rest of the lung was free, though the pleural surfaces were covered with a roughened layer of membrane of varying thickness, and connected by a few intersecting trabeculæ with each other. On the surface of these trabeculæ certain gray transparent granulations were seen, which resembled miliary tubercle to the naked eye. About six ounces of bloody serum were found in the pleural sac. On section the lung showed at its apex a cavity nearly the size of a hen's egg partly filled with broken-down caseous matter. The rest of the lung was thickly strewn with nodules like those in the other lung, ranging from the size of a pin's head to the end of the thumb; there was one nodule of catarrhal pneumonia in the upper back part of the lower lobe, nearly the size of a hen's egg.

There was nothing special about the heart or pericardium.

The mucous membrane of the stomach was somewhat pigmented, and at the pyloric half was thickly strewn with many slight elevations, proved by the microscope to be chiefly due to an increase of the submucous connective tissue (étât mamelonné).

The spleen was somewhat enlarged and had several old adhesions to neighboring parts.

The kidneys were of normal size. Under the microscope there was seen to be cloudy swelling of some of the tubules in parts of the cortex.

There was nothing special about the peritoneum or the rest of the abdominal viscera.

The brain and spinal cord were not examined.

A careful microscopic examination failed to detect miliary tubercles in any of the organs.

Portions from all parts of the lungs hardened in alcohol and colored

with carmine showed the disease to be chiefly what Buhl describes as desquamative pneumonia. That is, the cells of the alveoli were present in large numbers, swollen up, rounded, and enlarged, seeming to pervade the whole field. Many parts had undergone fatty degeneration. In other sections an increase in the connective tissue was very marked, indicative of interstitial pneumonia; while others again contained (alveoli and bronchioles) parts characteristic of catarrhal pneumonia. On the whole the most generally prevalent was the desquamative process. Numerous small bronchi were met with, surrounded by an increased amount of connective-tissue and filled with a more or less caseous mass (peribronchitis).

The chief point of interest in the case is that a double pleurisy should have occurred not dependent on tubercle for its origin. The lack of physical signs on the right side is fully accounted for by the thickness of the new membrane; and although it may appear singular that the existence of so large a cavity as that which was found at the apex of the left lung should not have been discovered before death, I can only state that the patient was carefully examined by several gentlemen beside myself, and at no time was anything heard beyond harsh respiration until November 28th, when a loud friction murmur was present.

AN INSTANCE OF UNUSUALLY HIGH TEMPERATURE IN A PUERPERAL PATIENT.

BY SAMUEL W. TORREY, M. D.

Mrs. D., primipara, was delivered, naturally, of a healthy infant, at five o'clock A. M., Saturday, March 25th. Patient was very calm and quiet during the labor, and was quite comfortable at my evening visit. Condition normal through Sunday and Monday; temperature 99°. On visiting her Tuesday afternoon, I learned that she had not slept during the previous night, but had been much harassed by the tormenting, irritating pain of prolapsed piles; there also had been considerable pain in the breasts. Pulse not particularly feverish, rather irritable, 106; respiration natural; skin, to the touch, not excessively warm; tongue moist, with slight white coating; temperature, by thermometer under the tongue, at the end of three minutes, 108°; at the end of five minutes, 108.5°. Examination revealed, protruding from the anus, a mass of piles, not inflamed, about as large as a small billiard ball, which, with some difficulty, after prolonged gentle manipulation, I returned through the sphincter. Gave ten drops of fluid extract of veratrum viride, and ten grains of Dover's powder. There had been no nausea, no chill, no pain in the abdomen; there was nothing abnormal about the ochia, and there was no unusual sensitiveness to pressure over the uterus.

Temperature next morning, 100°; milk flow established; patient quite comfortable. A mild saline cathartic moved the bowels gently, and the only further trouble was due to the relaxed condition of the sphincter, causing an occasional prolapse, which was satisfactorily overcome in a few days, by the use of suppositories containing bismuth and extract of opium. All symptoms of metritis or peritonitis being absent, the fever being removed by replacing the piles, and the flow of milk becoming fully established, lead me to conclude that the exceptionally high temperature was caused by the constant and severe irritation arising from the prolapsed piles, augmented by "milk fever." This case appears to me a good illustration of the value of the thermometer and its frequent application in puerperal cases, the physician's hand proving, as in this case, an imperfect means of estimating the degree of fever present, a due appreciation of which, early, is often of vital importance to the patient.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Inoculation of Fevers. — The recent occurrence of repeated epidemics of typhoid, typhus, and relapsing fevers led Motschutkoffsky [1] to experiment concerning the possibility of inoculating these diseases.

The experiments were made on men (volunteers), apes, rabbits, dogs, and cats, the material introduced being the blood, milk, sweat, urine, saliva, and excrement of the diseased patient.

The repeated attempts at inoculating typhus and typhoid fevers were unsuccessful. Men were readily inoculated with relapsing fever, the blood only of the material employed transferring the disease; the experiments on the lower animals produced negative results merely.

Some time before these experiments were made, Dr. Münch had successfully inoculated himself with relapsing fever.

In order that positive results may arise, the blood must be taken from the patient during the febrile attack, it being of no consequence whether the spiral fibres were seen or not. Experiments proved the inefficiency of the blood removed during the period of incubation, which lasted from five to eight days, or during the remission. The inoculation of a third person with the blood from a person who had received the disease through inoculation was successful. There was no evidence of an increased potency in the material inoculated, as stated by Davaine with reference to pus. A successful result followed the inoculation of infected blood diluted with equal parts of a quinine solution; the motion

[1] Centralblatt für die medicinischen Wissenschaften, 1876, xi. 193.

of the spiral fibres was stopped in consequence of the admixture. When the blood was diluted with alcohol these fibres ceased to move, and the inoculation of this mixture was unsuccessful.

Fat in Dropsical Fluids. — The source of fat found in fluid exudations into the pleural and abdominal cavities is suggested by Quincke[1] in connection with cases coming under his observation. A man entered the hospital, eight days after being run over by a wagon, with an accumulation of fluid in the right thorax, supposed to be the result of a pleurisy. The liquid removed by tapping resembled milk, and being set aside there was separated a creamy layer, which was composed of minute fat drops. A painful œdema proceeded from the region of the puncture and extended over the corresponding half of the thorax to the middle of the thigh. The swollen subcutaneous tissue being punctured, there escaped a milky fluid, of the same appearance under the microscope as that presented by the pleuritic fluid. The patient died, and the thorax was found to contain a fluid resembling, microscopically, chyle. The normal appearance of the pleural surface, and the absence of pain and fever excluded the idea of pleurisy, and it was supposed that the milky fluid had escaped from a ruptured chyle vessel, though such was not found. The nature of the fluid, and its repeated reproduction with nearly the same qualities, rendered at least probable a very considerable mixture with chyle.

A milky fluid removed from the abdominal cavity of another patient also gave a creamy layer on standing, which was composed of minute fat drops like chyle. The autopsy suggested an accumulation of chyle from the closure or constriction of the smaller vessels and an extensive capillary escape of chyle into the intestinal walls and the abdominal cavity. A peritonitis was the probable cause of this obstruction.

The fluid removed from the abdomen of a case of primary peritoneal cancer appeared milky, and a creamy layer separated. The fat drops in this case were larger than in the other instances, and were often grouped in the form of granular corpuscles, thus evidently resulting from the fatty degeneration of cells. A similar fluid is mentioned by Friedreich as occurring in a case of tubercular peritonitis. Quincke, therefore, concludes that where fat is found in transudations which present a creamy layer on standing, the fat may be due to the presence of chyle, chylous dropsy, or to the presence of fatty degenerated cells, adipose dropsy, and that the latter variety occurs particularly in cancerous and tubercular peritonitis.

Relation between Hepatic Abscess and Injury to the Head. — Bärensprung[2] has examined the records of the Pathological Institute at Berlin with reference to the asserted coincidence of these conditions. From 1859 to 1873 there occurred seven thousand three hundred and twenty-

[1] Deutsches Archiv für klinische Medicin, 1875, xvi. 121.

[2] Archiv für klinische Chirurgie, 1875, xviii. 557.

six autopsies, among which were one hundred and forty-six cases of cranial affections, nearly all of which were to be attributed to an injury, and one hundred and eight cases of hepatic abscesses or injuries. A comparison of the two series showed that abscesses of the liver are as frequently associated with wounds or suppuration in other parts of the body as with those of the head. The following are assigned as causes for the hepatic abscesses under such circumstances: the simultaneous action of an external force upon the hepatic region; the effect of *contre-coup* on the liver when a concussion of the whole body takes place; the transfer of septic emboli, either from branches of the vena portæ outside the liver or from the pulmonary veins; finally, the metastatic localization of icorrhæmia or septicæmia.

The last explanation is based upon the assertion of Klebs that all secondary suppurations and inflammations in organs remote from injured parts are produced by the microsporon septicum. Such may result from the immediate presence of the spores in the affected part, or from the transfer there of irritating substances produced by them at the original seat of injury. It is considered that the liver is particularly liable to be affected under such circumstances, from its large supply of blood and its connection with nutrition and the formation of blood. Its relation to certain metals and alcohol, and its ready affection in syphilis, tuberculosis, and cancer, suggest that it may be a place for purifying the blood, and a very sensitive one. The irritating substance in pyæmia reaching the liver gives rise at the outset to a parenchymatous degeneration of the liver-cells, followed by pus-formation.

Bärensprung also directed his attention to the possibility of hepatic abscesses being caused by the immediate gravitation into the hepatic vein of venous emboli on their way through the heart. The inference from his tables is a very direct one. In sixteen out of twenty-three cases of thrombosis of the cerebral sinuses due to injuries of the head there was embolism of the lungs, and in only two of these cases was there hepatic embolism besides. In one of the two cases the liver was directly injured, and in the other the pulmonary affection was older than that of the liver. In thirty-five cases of caries of the middle ear sinus thrombosis was present in fourteen, and the thrombi were often continuous into the jugular vein and in a state of putrid softening. Although embolism of the lungs was present in nine cases, in no instance was there an abscess of the liver.

Arteriitis Obliterans. — Friedländer [1] applies this term to a very frequent affection of the arteries which he considers to have been previously almost unknown. Analogous changes have been observed in veins, but less regularly; they are not so readily detected, and are more often complicated with thrombi.

[1] Centralblatt für die medicinischen Wissenschaften, 1876, iv.

Heubner's[1] description is regarded as typical, but the condition presents anatomically no specific syphilitic qualities, nor is it limited to syphilis. It consists in the origin of a cellular connective tissue within the inner coat of middle-sized and smaller arteries, which leads to a narrowing and an eventual obliteration of their canal. This growth may take place from all points of the wall, thus forming a concentric obstruction, or it may be partial forming a crescentic thickening. It may become vascularized and dense, or may undergo cheesy degeneration. The rule may, therefore, be stated that the wall of the arteries may take part in the condition of their surroundings, that is, in the great group of interstitial processes. According as these are acute or chronic, indurative or cheesy, so do corresponding changes occur in the arterial wall, especially in the inner coat. The process may occur primarily, though rarely. Such instances are the closure of the ductus arteriosus and the umbilical arteries.

Heubner calls attention to the importance of the process in the cerebral arteries. It is of regular occurrence, and extremely developed in the true indurative processes in the lungs, in cicatricial bronchiectases, etc. It is also a very important link in the chain of processes lying at the bottom of pulmonary consumption, it being almost impossible to examine closely a case of pulmonary phthisis without finding a number of obliterated arteries. Those found in the vicinity of cavities are generally erroneously regarded as due to thrombosis; others are seen in the recent lobar and lobular inflammation preceding the formation of cavities. This arterial obliteration may be produced experimentally in rabbits within forty hours after a section of the inferior laryngeal nerves. This observation suggests that the consequent arterial anæmia must play an essential part in the malignant course of the inflammatory process following this operation. It is also evident that the growth in phthisis must bear a direct relation to the increased pressure in the pulmonary artery and the hypertrophy and dilatation of the right side of the heart. The change is found in tumors and their vicinity, in simple granulation growths, in gummous tumors, and in tubercular growths with the associated inflammatory and ulcerative processes. It is more rare in sarcomas, but frequent in fibrous tumors, and is particularly marked in elephantiasis and the denser forms of cancer.

The newly-formed cells may arise from the endothelium, from the flowing blood or from that in the vasa vasorum. As the condition progresses, it agrees completely with the processes taking place in the organization of a thrombus, so that it may be hypothetically considered that the organization of the thrombus occurs by a process analogous to the obliterating arteriitis or phlebitis.

A similar obliterating process may occur in canals lined with epithe-

[1] Die Luetische Erkrankungen der Hirnarterien. Leipzig. 1874.

lium, as the small bronchi and the excretory ducts of glands, especially the milk ducts. The conditions in these cases are apparently the same, namely, the presence of interstitial processes in the vicinity, as scirrhous cancer, fibrous tumors, or chronic inflammation of the breast. The epithelium is usually destroyed before the process of obliteration takes place.

Diphtheritic Inflammation. — The various stages in the development of this process in the human intestine were observed by Rajewsky. He found that a catarrhal process always preceded the diphtheritis, and that at the outset of the latter a fibrinous exudation is deposited in and upon the mucous membrane. The latter then dies, and is converted into a granular albuminous material; this destruction increases in extent, and at the same time the blood-vessels in the altered tissues undergo a hyaline metamorphosis. Micrococci and bacteria are found in the unaltered tissue and in that which has become granular, isolated in the former, as colonies in the latter. In the earlier stages the lymph-canals of the submucous tissue are filled with the bacteria. In order to determine the relation of the parasites to the diphtheritis and to the hyaline degeneration of the blood-vessels, he made several experiments on rabbits. When fluids containing bacteria were injected into the blood-vessels, an intestinal diphtheritis followed only when an inflammation of the mucous membrane was previously produced. This was done by the injection of a weak ammoniacal solution into the intestine, and then the micrococci became fixed in the intestinal mucous membrane after passing through the walls of the vessel. If either injection solely was made, no diphtheritis of the intestine followed. It was concluded that in intestinal diphtheritis the parasites play an important part, but the soil in which they are to grow must previously be prepared by irritants. This inflammatory change in the mucous membrane is in relation with the hyaline metamorphosis of the blood-vessels.

(*To be concluded.*)

DISEASES OF INFANCY AND CHILDHOOD.[1]

The second edition of Dr. Smith's work appeared in 1872. As a result of the enlarged experience during the intervening four years, which the author's unusual facilities for clinical study have given him, we find several important diseases treated at length which were omitted in the former editions, and a considerable part of the text has been enlarged and rewritten.

The great importance of the proper feeding of children in health is fully recognized by the devotion of four chapters to the subject of lactation and of artificial feeding.

The author speaks highly of the addition of Hawley's Liebig's food to the

[1] *Treatise on the Diseases of Infancy and Childhood.* By J. Lewis Smith, M. D. New York. Third Edition, enlarged and thoroughly revised. Philadelphia: Henry C. Lea. 1876.

infant's milk, made in this country under the immediate supervision of Dr. Hawley, of Brooklyn. Ridge's food and flour-cake are used in like manner at the New York asylum. One objection urged against Liebig's food has been the difficulty in carrying out the directions for making it. Hawley's food does away certainly with that objection, for it is only necessary to mix the dry food with the milk, pure or properly diluted, and after bringing it slowly to the boiling-point, with frequent stirring, the mixture is ready for use. The flour-cake is to be made by boiling two or three pounds of the best wheat flour, crowded snugly in a muslin bag, for forty-eight hours in water sufficient to cover it, the flour to be grated from it after drying. "These three flours," the author writes, "are employed in the New York Infant Asylum with a satisfactory result, but the preference is given to Ridge's food, which seems to agree with the largest number."

The Constitutional Diseases comprise the second part of the book, and are divided into four sections.

Section I., Diathetic Diseases, includes rachitis, scrofula, tuberculosis, and syphilis.

Section II., Eruptive Fevers, includes measles, scarlet fever, rötheln (German measles), variola, varioloid, vaccinia, and varicella.

Section III., Non-Eruptive Contagious Diseases, includes diphtheria, pertussis, and parotiditis.

Section IV., Other General Diseases, includes intermittent fever, remittent fever, typhoid fever, cerebro-spinal fever, acute rheumatism, and erysipelas.

In the chapters devoted to the four diathetic diseases we find a very full presentation of the latest views, and the ætiology and anatomical characters of tuberculosis are treated at great length.

The articles upon the eruptive fevers are particularly good. In the malignant forms of scarlet fever, "which are indicated by a quick and weak pulse, a temperature rising to 105° or higher, drowsiness, delirium, great restlessness, duskiness of the skin, and a languid circulation," the author has found "quinine in large doses" more useful than any other remedy. While it gives more strength to the action of the heart, it diminishes the frequency of the pulsations and reduces the temperature. Three to five grains are given three times daily to a child five years old. When the stomach is too irritable, twelve grains are given in clyster; and if the excessive temperature continue after twelve hours, it is to be repeated. A hot mustard foot-bath or general warm baths containing mustard, the free use of wine-whey or milk-punch, and, if great restlessness, the bromide of potassium, are also indicated." The employment of sweet oil or glycerine, to each ounce of which six or eight drops of carbolic acid are added, is preferred to the ordinary inunction with lard. As a preventive of the spread of the contagion, the regulations of the New York Board of Health are quoted and their enforcement is recommended.

The chapter on rötheln appears in the present edition for the first time, an epidemic of this disease having occurred since the issue of the previous edition.

Of the non-eruptive contagious diseases, the chapter on diphtheria has been entirely rewritten, and of this disease the author says in his preface, "Diph-

theria has become a disease of great importance in this country, desolating many families, my own among others, and snatching away many a child of bright promise. Although of late the profession has acquired a greater insight into the nature of this disease than we formerly possessed, and we are able to treat more successfully its local manifestations, nevertheless there are cases, and not a few, which are attended by early and profound blood-poisoning, which still renders diphtheria the most fatal disease of childhood in the localities where it prevails. Indeed, there is no infectious disease which involves greater danger and in which there are so many modes of death."

Contrary to the usual classification, we find pertussis included in this section instead of among diseases of the respiratory system, but the innovation seems to be a proper one.

The author continues to maintain the existence of a so-called essential infantile remittent fever, excluding from the category all forms symptomatic of a local irritation, or dependent upon malaria, or identical with typhus or typhoid fever. It were to be wished that more space than one page and a half had been devoted to making clear his views and reasons for so doing, but as we are told that "its discrimination from typhus or typhoid is practically of little importance," we may infer that its continuance in the nomenclature of children's diseases is equally so.

The chapter on typhoid fever is one of the shortest and least interesting in the book.

Cerebro-spinal fever appears for the first time in this edition, an epidemic of this disease having occurred in New York since 1872. The chapter constitutes in itself a very valuable monograph, and is the best we know of in any work of this kind.

The third part of the book embraces diseases classified from the point of view of their anatomical characters, and is divided into five sections. These treat in order diseases of the cerebro-spinal, respiratory, digestive, and circulatory systems, and diseases of the skin.

We find simple and tubercular meningitis treated together in the same chapter. The description of the characteristics peculiar to each form is consequently a very confused one. The author, however, attaches but little importance to an accurate separation, for he writes, page 374, "Certain writers describe at length the means of diagnosticating the simple from the tubercular form of the inflammation. Differential diagnosis is often difficult, and sometimes impossible; but it matters little practically whether the form of the disease is ascertained."

It is noticeable in this section that there is no chapter on epilepsy in the book.

The ætiology of chorea is discussed at length. In summing up the author writes, "It is obviously better in the present state of uncertainty regarding the exact relation of rheumatism and valvular disease to chorea to postpone the acceptance of any theory till the minute anatomy of chorea has been as fully investigated as has its clinical history." In the treatment of this disease preference is given to the arsenical treatment of Romberg, or the cod-liver oil and hypophosphite treatment of Radcliffe, in some cases combining the two modes of treatment, and in some alternating them.

As there is still a difference of opinion amongst the highest authorities on the subject of the scarification of the gums, we venture to quote in full the author's views. "The gum-lancet," he writes, "is now much less frequently employed than formerly. It is used more by the ignorant practitioner, who is deficient in the ability to diagnosticate obscure diseases, than by one of intelligence, who can discern more clearly the true pathological state. Its use is more frequent in some countries, as England, under the teaching of great names, than in others, as France, where the highest authorities, as Rilliet and Barthez, discountenance it.

"It is well to bear in mind, as aiding in the elucidation of this subject, the remark made by Trousseau, that the tooth is not released by lancing the gum over the advancing crown. The gum is not rendered tense by pressure of the teeth, as many seem to think, for, if so, the incision would not remain linear, and the edges of the wound would not unite, as they ordinarily do, by first intention within a day or two. This speedy healing of the incision, unless the tooth is on the point of protruding, is an important fact, for it shows that the effect of the scarification can last only one or two days. The early repair of the dental follicle is probably conservative so far as the development of the tooth is concerned. It may help us to understand how active, how powerful the process of absorption is, if we reflect that the roots of the deciduous teeth are more or less absorbed by the advancing set, without much pain or suffering from the pressure. If the calcareous particles of the teeth are so readily absorbed, what is the foundation for the belief that the fleshy substance of the gum is absorbed with such difficulty? Too much importance has evidently been attached to the supposed tension and resistance of the gum in the process of dentition.

"Follicles in the period of development are specially liable to inflammation. We see this in the follicular stomatitis and enteritis so common when the buccal and intestinal follicles are in the state of most rapid growth. Does not this law in reference to the follicles hold true of those by which the teeth are formed, so that the period of their enlargement and greatest activity, which corresponds with the growth and protrusion of the teeth, is also the period when they are most liable to congestion and inflammation? This fact affords a better explanation of the frequency of the so-called laborious or difficult dentition than that it is due to the resistance which dental evolution encounters from the gums. If there are no symptoms except such as occur directly from the swelling and congestion of the gum, the lancet should seldom be used. The pathological state of the gum which would without doubt require its use is an abscess over the tooth. As to symptoms which are general or referable to other organs, as fever and diarrhœa, the lancet should not be used if the symptoms can be controlled by other safe measures. All coöperating causes should be first removed, when in a large proportion of cases the patient will experience such relief that scarification can be deferred.

"If the state of the infant is one of immediate danger, as in convulsions, and it is not quickly relieved by the ordinary remedies, scarification of the gums may not only be proper but urgently required. For in such cases all measures, provided they are safe and simple, which can possibly give relief should be employed without delay. But I can recall to mind only two acci-

dents of dentition which would be likely to be benefited by scarification, namely, suppurative inflammation in the dental follicle and convulsions. But since the bromide of potassium has come into use as a nervous sedative, and as an efficient remedy for chronic convulsions, scarification of the gums is much less frequently required, for even severe eclampsia commonly yields to this medicine if the condition of the bowels is attended to. Cutting of the gums is now abandoned as a means of relief in infantile paralysis, for this malady is known to be due to other causes than dentition."

Softening of the stomach (gastro-malacia) is regarded by the author as being frequently a pathological process taking place during life, a result of deficient alimentation or of inflammation. It is unnecessary to say that at the present day such views are regarded by most authorities as untenable, notwithstanding the distinguished names of Cruveilhier, Billard, and Rokitansky are cited in support of them.

The chapter on intestinal inflammation in infancy is one of the longest in the book, and the subject receives the thorough consideration which its great frequency and importance demands. "It is unfortunate," he remarks, "for a correct understanding of its prevalence and mortality in large cities that this disease is very generally in the summer months, when obstinate and especially when fatal, called cholera infantum, from which in its symptoms and nature it is very different. The one thousand five hundred fatal cases of so-called cholera infantum reported every summer in New York are, with now and then an exception, cases of this disease, generally protracted. In like manner the excess of reported cases of infantile marasmus in the second half of the year over those reported in the first half should be added to the statistics of intestinal inflammation."

The chapter upon intussusception has been carefully made up, based upon the records of fifty-two cases.

All the author has to say upon diseases of the circulatory system is included in one chapter upon cyanosis. All cases on record have been collected, and the chapter forms quite a lengthy treatise on the subject, embracing naturally the considerations of the congenital malformations of the heart.

In the transposing of prescriptions from the metrical system to that in use in this country two errors are noticed which require correction, as the doses given are larger than are intended, in one case being twice the prescribed quantity. On page 653, in giving the dose of santonine, 2.30 grains has been given as the equivalent of ten centimetres. On the next line, 1.15 grains as the equivalent of five centimetres is of course equally wrong. Again, in the chapter on syphilis, we read as the dose of Van Swieten's solution of bichloride of mercury, "Dose, one or at most two grammes (twenty-three to forty-six grains) in milk daily." It should of course read fifteen to thirty minims.

A description of this work would be incomplete without alluding to the numerous records of post-mortem examinations, and of cases that are abundantly made use of where needed for purposes of description and illustration.

PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

A. H. NICHOLS, M. D., SECRETARY.

THE quarterly meeting of the society was held at the Willard House, Hyde Park, January 11, 1876, the president, DR. S. E. STONE, in the chair. Present, forty-two members.

Ulcerations of the Os Uteri. — DR. CLIFTON E. WING read a paper upon "So-Called Ulcerations of the Os Uteri," which appeared in the JOURNAL of March 16th.

DR. H. A. MARTIN said that the paper touched upon several points of interest to the general practitioner. There could be no question but that the ordinary treatment of this class of affections resulted, so far as the patients were concerned, in infinitely more harm than good. He was able to recall the first paper upon this subject that had ever appeared in this country, written by Dr. Charles Meigs, of Philadelphia, a physician of great ability. It was given out in this paper that ulcerations of the os could be readily cured by a few touches with the solid nitrate of silver, and this fallacious notion had been very generally adopted by the profession. Dr. Martin expressed the opinion that cauterization of even the os and cervix uteri was by no means wholly unattended with danger. He had himself seen one case of endometritis, in which a single application of nitrate of mercury to the fundus had been immediately followed by severe, extensive, and nearly fatal pelvic cellulitis. In this instance, although the patient barely escaped with life, the result could not upon the whole be considered an unmitigated misfortune, for it proved the means of effectually relieving her of the conviction that heroic local treatment could alone meet the exigencies of her case. Since the supervention of the pelvic cellulitis, this patient had carefully refrained from subjecting herself to any local interference, and had steadily improved. A variety of most distressing symptoms, formerly attributed to organic disease, have disappeared with the cessation of the fire and sword treatment, which was their real cause. Other cases were likewise cited, to illustrate that in this class of affections the benefit derived from violent local treatment was infinitely small, in comparison with the annoyance and suffering to which the patients are thereby subjected. More importance should be assigned to enlightened general treatment; while local applications, when resorted to, should be to a great degree restricted to the milder sedatives, astringents, and alteratives. He did not agree with the writer in considering these ulcerations about the os as akin to the artificial and trifling sores seen about the orifice of the nasal cavity in ill-tended children. A condition was often observed affecting the os, and extending more or less into the cervix, presenting such characteristics of ulceration as are commonly found in a granulating surface secreting pus, and yielding to precisely the same treatment as is efficacious in similar conditions upon the cutaneous surface.

DR. E. D. MILLER remarked that he had been much interested in the paper, and coincided, in the main, with the views advanced by the writer. It seemed to him that if the obscurity which now enveloped the pathology of

ulcerations of the os could be cleared up, there would then be much less diversity of opinion as regards the indications for treatment. He believed in the inflammatory character of the affection, and when this process was limited to the cervix, it did not of necessity entail any very decided objective symptoms. When, however, the body of the organ once became involved, severe reflex symptoms might be looked for. These local ulcerations and abrasions were rarely to be encountered, except in the case of married women. In this connection, he had but little faith in the usefulness of any of the mechanical supports for retaining in position a displaced uterus. If the local ulcerations and congestion were relieved, the version or flexure of the organ would not make much trouble. He had known some of the most severe uterine displacements to be unaccompanied by any ill effects whatsoever; nor did he think that even lacerations of the os and cervix would necessarily be followed by bad symptoms. He was inclined to question the advisability of any operation, with the view of bringing together the edges of the ruptured os. Rupture of the cervix attending childbirth would, as a rule, do well without surgical interference, provided the parts were in a healthy condition.

Dr. Martin stated that he had observed rupture, inflammation, and so-called ulcerations, confined to the cervix, attended by very decided reflex symptoms; such, for instance, as pain in the back, in one or both groins (generally one, and that the left), and extending down the thighs; headache, nausea, etc.

Dr. Miller replied that this had not been his experience.

Dr. Wing observed that in cases of the rupture of the os and cervix taking place at time of confinement, he did not favor operative interference, except in rare instances, where the rent was extensive. He related the details of one case where the rupture was so long as to lead to an abortion. In such a case he would not hesitate to counsel an operation.

School Children and Infection. — Dr. Arthur H. Nichols read a paper upon School-Children and Dangerous Communicable Diseases, which was published in the Journal of March 23d.

Dr. Joel Seaverns, in commenting upon this paper, remarked that although a long service upon the school committee enabled him to confirm the statement as to the absence of all rules designed to deal preventively with infectious diseases, he should, nevertheless, regard the attempt to enforce the proposed prophylactic regulations among the ordinary attendants of the schools as impracticable. Parents would manifest but little interest in the matter; for, while not unwilling to adopt certain precautions to prevent their own children from contracting diseases, they were not generally disposed to manifest much concern when the welfare of other and strange children was involved. When any disease breaks out within the house, parents are generally desirous to be relieved of the presence and care of those not actually sick, and hence hurry the well children back to school from infected houses at the earliest possible moment. The enforcement of the second rule, providing for the disinfection of children and clothing, was altogether impracticable. It should be, furthermore, considered that in a large proportion of the infectious diseases occurring among the lower classes, no professional attendant was

called in. Consequently, all evidence of the enforcement of the proposed rules would be limited to the statements of the parents, and would, therefore, be not fully trustworthy. Such regulations could be thoroughly enforced only by the aid of a qualified medical inspector, who should be required to make a personal inspection of the infected tenements and their occupants. Dr. Seaverns considered the enforcement of a limit of time for seclusion after infectious diseases as more practicable than ablutions and disinfection. He had known of epidemics so extensive and severe as to necessitate the closing of some of the schools.

Dr. J. S. Greene spoke of one danger to which school children were liable, namely, that arising from the concealment of contagious diseases in the early stage. There was also great danger of contagion so long as any dry skin, scurf, or crusts were attached to the body after scarlatina and small-pox. He had over and over again encountered children mingling with playmates, or riding in the horse-cars, with their skin presenting every condition necessary for the ready transmission of disease.

Dr. E. P. Gerry thought the responsibility for the early return of children to school, after suffering from infectious diseases, rested, in many instances, with the teachers and the committee. Fault was found by the latter if the average attendance of the school was not large; hence, to raise this average, children were urged by the teacher to return as soon as possible after illness.

Dr. H. A. Martin stated that he had had a large experience as regards the unwillingness of parents to have children vaccinated, and he had often been surprised to learn how many there were to whom vaccination had never been offered. He had once found twenty-three such individuals in a single tenement. He described, and strongly condemned, the means commonly employed in large cities for insuring the vaccination of the poorer classes. The provisions made for public vaccination were not acceptable to the classes for which they were intended, and for this reason, all efforts in this direction upon the part of the authorities were usually nugatory, except in times of panic. Dr. Martin maintained that time, and not disinfecting measures, would afford with this class the strongest protection from the danger of contagion. Hence, a certain period should intervene between convalescence from these diseases and the return of the pupil to school. The idea of carrying out the proposed disinfecting measures among the lower orders was simply preposterous. Such regulations, involving enforced baths and disinfection, could be enforced among this class only by a large and thoroughly organized band of lavators, disinfectors, and fumigators. He inquired whether "German measles" was included in the list of contagious diseases to be guarded against by the measures under consideration.

Dr. A. H. Nichols replied that the disease, as observed in this vicinity, was so extremely trivial and free from danger, that it had not been considered at all.

Dr. H. A. Martin agreed entirely in considering the disease of utter insignificance; he thought that a very doubtful service had been done by reviving, under the name "German measles," an utterly needless interest in a disease which was no more German than it was of any other race or nationality. The

diagnosis between this and any mild case of measles, and still more of scarlet fever, is not easy, and, indeed, to many inexperienced physicians practically impossible. The mildest case of either measles or scarlet fever is as likely to communicate by contagion the severest possible form of the malady as any other. Dr. Martin had known of at least two cases which were followed, after a few weeks, by nephritis, albuminuria, and other most serious symptoms. Dr. Martin's belief was that these were very slight cases of scarlet fever; the very ones which a discreet physician is most keenly watchful of, with a view to averting grave and fatal complications. Dr. Martin was, for these and similar reasons, of opinion that the same rules of isolation and prolonged absence, fumigation, lavation, ventilation, ablution, etc., as may be considered expedient in small-pox, scarlet fever, and measles, should also be applied to cases reported as German measles, believing, as he most surely did, that a very large proportion indeed of cases reported as such were cases of scarlatina benigne.

Dr. Martin alluded to the absurd division of cases of scarlet fever into scarlatina and scarlet fever; the first a very trivial and unimportant disease, liable to occur repeatedly, and very different from the latter, the most grave of children's diseases, occurring but once in a life-time, and indeed often for the very good and solemn reason that the first attack terminates life. As leading to needless exposure to contagion, and above all as inducing a neglect of the strict rules absolutely called for in the very mildest forms of this protean and dread disease, this fallacy should be attacked by all physicians worthy of the name. Thousands of children have died wretched, lingering deaths from dropsy and other sequelæ of neglected cases of mild scarlet fever; death occurring so long after the primary disease that parents, and even physicians, fail to ascribe them to their own ignorance, and consequent neglect of simple measures of diet, clothing, temperature, and above all daily bathing followed by proper friction of the surface. These daily baths should be kept up until the complete removal of the dead epidermis is insured. It should be understood that this process of desquamation is peculiarly slow and difficult after the milder cases of scarlet fever; hence artificial aid is here especially called for.

Dr. Gifford stated that for the past fifteen years a rule had been enforced in Stoughton, prohibiting children from attending school from houses in which contagious diseases existed.

Dr. Tower remarked that in many towns children were allowed to attend school without any attempt being made to ascertain whether they had been vaccinated. He reminded members that the non-contagiousness of scarlet fever had been advocated about one year ago at one of the meetings of this society.

Dr. J. Stedman related some interesting cases occurring in his own family, tending to show the extreme activity and transmissibility of the virus of scarlet fever.

Diaphragmatic Hernia. — Dr. W. F. Emery reported a case of the above lesion, and showed the specimen. An account of this case has appeared in a recent report of the proceedings of the Observation Society.

THE DISCOVERY OF ANÆSTHESIA.

In the series of articles which are now appearing in the *American Journal of the Medical Sciences* under the heading, A Century of American Medicine, a most prominent place is naturally given to the great discovery of the century, and the narrative of this chapter of our history was most appropriately entrusted to an eye-witness of and participator in the events which gave it to the world. Dr. Henry J. Bigelow's article is a most exhaustive and able review of the controversy connected with this discovery, and has brought out, as might have been expected, a "critique" from a friend and fellow-townsman of one of the disappointed aspirants for honors. Dr. H. P. Stearns, of Hartford, in a recent number of the New York *Medical Record*, espouses in a somewhat partisan spirit, we think, the claims of Wells to the title of discoverer. We do not propose to revive the discussion in these columns, but would call the attention of those of our readers who have read the articles in question to one or two important points to bear in mind. Of late years the citizens of Hartford have shown much enterprise in claiming for their fellow-townsman and city the honors of this discovery. This was manifest at the meeting of the American Medical Association at Washington, when the resolutions indorsing Wells were passed. The faults of our national association were never more conspicuous than on this occasion. Circulars were distributed reciting Wells's claims as the discoverer. Testimony on the other side was deliberately suppressed, and the subsequent action of the association was but a fair sample of the many follies of that meeting. Such hasty and ill-considered action could hardly be expected to exercise much influence upon the opinion of the scientific world.

It is asserted that Wells's experiments with nitrous oxide were not abandoned, but that he and his friends in Hartford continued them. At the end of two years, however, the knowledge of this great discovery had not spread beyond the limits of a small country town. Morton, like Wells, was a stranger to Boston surgeons, yet a few weeks after Dr. John C. Warren performed the first operations under ether, at the Massachusetts General Hospital, anæsthesia was at the disposal of the civilized world.

On the monument erected over Morton's grave are the following inscriptions: "Before whom in all time surgery was agony. By whom pain in surgery was alleviated and annulled. Since whom science has controlled pain." Can it be said that this is not true of Morton? Who can say that it is true of Wells?

WHITE BLOOD CORPUSCLES IN DISEASE.

At a recent session of the Société Médicale des Hôpitaux, as reported in *L'Union Médicale* of March 9, 1876, M. Brouardel presented a thesis by one of his pupils, Dr. Henri Boune, on the variation in the number of the white blood corpuscles in certain diseases. In 1870, M. Brouardel called the attention of the society to some researches of his own on this subject, regarding variola. The methods employed were very defective, but since then they have been so much improved as to render the examinations easy and much less lia-

ble to error. In pursuing his investigations the reporter has ascertained from day to day the variations which presented themselves in the same patient in the number of white corpuscles in the blood, in the course of a given malady. The following results were obtained: In a patient from whom a cancerous breast was removed, the white corpuscles increased from one white to forty-eight red before the operation, to one to twenty-eight and one to twenty-three, three days after the excision. When suppuration was established, the proportion fell to one to sixty, ninety, and finally, as suppuration diminished, to one to four hundred.

In two patients having abscesses in the iliac fossa, the leucocytes were very abundant before the opening of the abscess, one to eighteen in one, and one to thirty-eight in the other. Immediately after the opening the number of white globules fell to one to one hundred and thirty-two in one, and to one to one hundred and thirty in the other. Similar conditions have been noticed in other forms of abscess, those of the neck, axilla, etc. Observations have conclusively shown that the formation of a purulent collection coincides with a considerable augmentation of the leucocytes of the blood, and that the discharge of the collection coincides with a rapid diminution of the white corpuscles. Analogous results have been noticed in patients affected with suppurative diseases. In variola, on the fifth day one white globule was found to four hundred and fifty red; on the sixth day one to forty-eight, on the seventh — that of the suppurative fever — one to one hundred and fifty, on the ninth one to two hundred and thirty-six; on the tenth none could be observed in the field of the microscope. In a case of suppurative pneumonia the white globules were increased on the ninth day, at the time of death, to one to forty red. A marked increase in the number of white corpuscles has been twice observed in cases of herpetic fever. In a case of typhoid fever where up to the seventh day of the disease the white corpuscles were very numerous, they fell from one in seventy to less than one in five hundred on the ninth day. Their number increased only when abscesses supervened. This observation shows that the number of white globules does not follow the variations of temperature.

The reporter thinks that the study of the formation of white corpuscles in acute diseases, and in those which are not attended with suppuration, is worthy of the attention of pathologists.

MEDICAL NOTES.

— In the name of M. Cloez, says *L'Union Médicale* of March 18, 1876, M. Chevreul has presented to the Académie des Sciences some specimens of a new oil. It is extracted from a Chinese plant and is as yet little known. The oily material is obtained by submitting the seeds of the plant to strong pressure. It contains, like other oils, a large proportion of glycerine. Its characteristic and very peculiar property is that it soon solidifies when exposed to light. This solidification cannot be attributed to the absorption of oxygen from the air, as takes place in the drying oils, because the phenomenon is produced also *in vacuo;* but it does not manifest itself in the same manner under

transparent glasses of different tints. In a receptacle of yellow glass the solidification does not take place, but it does, on the contrary, in a transparent violet vase. It may not be well, then, to choose flasks of the latter color for holding substances, like chlorine water, which are easily decomposed by the action of light. M. Chevreul suggests that it would be better to employ, as the photographers do, vessels of yellow glass.

— The experiments of Dr. Pouza, of Alexandria, in the use of colored glass in the treatment of the insane are narrated in *The British Medical Journal* of March 25, 1876. Dr. Pouza placed his patients in chambers colored red, blue, and violet. In the red room he placed a melancholic man, who had refused his food, but who in three hours was lively and hungry. In the blue chamber a violent lunatic was placed, who became quieter within an hour. The violet room furnished equally good results. Of the rays of the spectrum the violet possess the most intense electro-chemical rays, the red are the richest in calorific rays, while the blue, devoid of these properties, are the most useful in their quieting influence. It is to be hoped that further experiments may show that by the employment of the simple means referred to, the good results which Dr. Pouza has indicated may be obtained by others.

MAINE GENERAL HOSPITAL.

SURGICAL CLINIC.

Bronchocele. — Mrs. Susan J., aged fifty-eight, nativity and residence Portland, admitted July 21, 1875. History is that of bronchocele, which commenced about six years ago in the form of a "lump" about the size of a filbert, two inches below the lobe of the right ear. This gradually increased in size, working its way downward and forward, and involved the whole gland, presenting a firm, non-fluctuating tumor the size of two closed hands, most prominent on the right side. A harassing cough has existed for the last six months; there has been much difficulty in deglutition and respiration, and the voice has been much affected, all of which symptoms have rapidly increased during the last six weeks. She is a portly woman, has enjoyed fair health, but possesses that peculiar constitutional condition of the system associated with the disease. There is no trace of goitre in her family history.

At a consultation of the surgical staff it was decided to attempt its removal by Mackenzie's method.

July 23d. Dr. Weeks began the treatment by the injection of one drachm of alcohol, making the puncture in the most prominent portion on the right side, two inches from the median line.

July 26th. The injection produced headache and slight darting pains in the neck. Six ounces of albuminous fluid were drawn off with the aspirator, thus showing the nature of the tumor, and a drachm of alcohol with twenty drops of tincture of iodine injected.

July 29th. About two ounces of bloody fluid were drawn off, and a drachm of alcohol with thirty drops of tincture of iodine injected. Enlargement reduced to two thirds its former size.

August 4th. One ounce and a half of bloody fluid were drawn off, and a drachm of alcohol with thirty drops of tincture of iodine injected.

August 6th. Little more than an ounce of bloody fluid was drawn off, and nothing injected.

August 13th. One drachm and a half of bloody fluid were drawn off, and the same amount of compound solution of iodine injected.

August 17th. About a drachm of puriform fluid was drawn off, and nothing injected.

August 28th. An ounce of puriform fluid was drawn off, and nothing injected.

September 3d. Ether spray was used to avoid the pain caused by inserting the needle, and one ounce and a half of thick, puriform fluid were drawn. An incision was made to enlarge the opening, and a flaxseed poultice ordered to be applied.

September 6th. Tumor more pointing and cough more troublesome. A little bloody fluid was drawn off with canula and trocar.

September 8th. Commenced to discharge, relieving the cough and dyspnœa, both of which have been very annoying.

September 12th. Two ounces of thick, puriform fluid were drawn off, the discharge having ceased.

September 20th. The discharge continues.

On the 13th instant an erysipelatous inflammation began at the point of puncture and rapidly spread over the neck, chest, and back. Large and repeated doses of tincture of iron were given and appropriate washes applied.

September 24th. The inflammation has extended over the face and head; there is much tumefaction about the eyes and ears, so that the functions of both organs are suspended. The patient is unable to speak aloud, and lies in a pitiful condition.

September 27th. Erysipelatous inflammation subsiding. It has become evident that there are at least three sacs, and that the discharge does not come from the deep one. There are unusual symptoms of pressure on the larynx and trachea, and the aspirator needle being inserted into the neck about four inches, two ounces of nearly laudable pus were drawn off, with immediate relief to the dyspnœa and voice.

October 3d. There is quite a prominence in front, which seems to be caused by a sac that has burrowed from the one now discharging. The needle of the aspirator was introduced about on a level with the other puncture, near the median line, and from this and the deep sac two ounces of quite healthy pus were drawn off with much relief.

October 10th. One ounce and a half of purulent fluid were drawn from the sac near the median line. Constant discharge from the old opening.

October 14th. Suffering from pressure. The needle was inserted down into the deep sac, through the old opening, and two ounces of purulent fluid were drawn off, with the desired relief.

October 21st. Again suffering from pressure from the sac in the median line, which has been discharging since the last note. After introducing the needle into the new opening, one ounce and a half of purulent fluid were drawn

off, with much relief. Dr. Tewksbury, whose term of duty began with the present month, in considering the matter with Dr. Weeks, thought that if a seton could be put through each sac a constant discharge would be kept up, and the distressing symptoms of pressure avoided; but upon trial it was found that the point at which the sinuses would meet in the neck was so deep and at such an angle that the seton could not be introduced. Consequently it was abandoned, with a view of using tents to keep the openings capacious and to maintain a free discharge.

October 26th. One ounce and a half of purulent fluid were drawn off, with the usual relief.

October 31st. About the usual amount of fluid was drawn off, and a sea-tangle tent inserted into each of the two openings.

November 1st. She had a severe chill last evening, and sank into a condition of collapse. After persistent use of external and internal stimulants she rallied. Upon removing the tents to-day, double the usual quantity of pus was drawn off. A small sea-tangle tent was put in the old opening.

November 2d. Last evening there was a more marked state of collapse. The pulse was feeble at 150 per minute, the surface became cold and livid, and the patient's friends were informed that she would probably die. Stimulants were used freely; she finally rallied, and passed quite a comfortable night. There is the old opening four inches, at which point it strikes, probably, the spinal col- a profuse discharge from both openings, and a probe can readily be passed down umn. As the abscess has had a tendency to point backward, it is feared that it may go on and destroy life.

November 13th. Two more sea-tangle tents have been used, but they produced such alarming symptoms that their use has been abandoned. There is a pretty constant discharge; whenever it stops a day or so, cough and difficult breathing become annoying, both of which are relieved by tapping with the trocar and canula. Quite a large piece of pyogenic membrane has come away.

November 27th. Discharge lessening, but for the last ten days it has had a very offensive odor, like decomposing flesh. Opening in median line closing up, and the cavity to which it leads becoming obliterated. Patient sits up, and walks about a little.

December 11th. Improving; discharge small; odor disappeared. Iodine applied on a cotton-tipped probe daily to the cavity on the right side, the depth of which is gradually lessening. The other opening entirely closed.

December 18th. She has steadily improved. The enlargement, now only on the right side, varies; some days, after free discharge, there is none. The cavity is now less than two inches in depth; there is no cough, no difficulty in breathing or swallowing, and she left the hospital to-day. There have been many annoying complications during the treatment. She has complained bitterly of incontinence of urine; has frequently been disturbed every half-hour during the night; has had gastro-intestinal disturbances; constipation alternating with diarrhœa, headache, etc.

January 21, 1876. For the first two weeks after leaving the hospital, iodine was applied three times a week. The last application was made on the 8th

instant; the enlargement has all disappeared, the cavity is obliterated, the opening closed; there is no cough, difficulty in breathing, or swallowing, and the patient's general health so much improved that she frequently walks a mile.

E. E. Holt, M. D.

LETTER FROM BERLIN.

Messrs. Editors, — It is noticeable how much more one is questioned in regard to the medical instruction of Boston than to that of New York or Philadelphia, by men connected with the University of Berlin. The inquiry is accompanied by an expression of congratulation upon the new departure in the Medical Department of Harvard, and at the same time suggests a doubt as to its ultimate success in the practical American medical profession. Germans, of all foreigners, have such strange notions of Americans, as well in pursuits in the medical sciences as in matters of commercial life. As to the latter, we are swindlers, and are absolutely unable to "turn an honest penny;" in our systems of medical education we teach what we steal from Europe, principally from Germany, of course, after adroitly weeding out everything that is purely theoretical or debatable, or that involves logical study, as, for instance, histology and those branches of physics so closely allied to medicine. As to commercial affairs, it is the almighty dollar; get it who can, with its value below par, and spend it at one hundred and ten per cent. In medical education, we must have a diploma as doctor after a few months' hearing of facts from the lecture-desk, without any preliminary or post-graduate study, and at the highest price. Within a fortnight, in the *Vossische Zeitung*, the largest secular journal of Berlin, whose office is to reach the greatest reading public without representing any extreme of liberalism, radicalism, or royalism, either in church or state, there has appeared an article decrying some popular statements made in regard to the superficial examinations and the easy obtaining of diplomas from the medical departments of Erlangen and Leipzig, and which arrayed these schools in comparison with our own. Another article in the same journal, of later date, from the pen of a well-known Berlin physician, calls upon the government to take the field against dabbling in medicine by quacks, *medicinal pfuscherei*, which exists to a large extent in the states of Bavaria, Saxony, and Prussia, before it reaches its most dangerous feature, namely, the so-called American doctor. No school at home is asked to wear the shoe unless it fits. The Germans, I say, have such strange notions of us as medical instructors; for with their conceptions of our falsity in education, we are to them the most adroit surgeons, contribute the most by invention, and erect the best hospitals of any people. I do not think they respect our scholarship, but they admire the talents of our genius, and the genius of our talent. The basis of any new American theory in medicine is questionable to the philosophic German mind; while a new operation, the surgical treatment of a disease, or the invention of a new surgical instrument, commands their ready attention. It is not necessary to more than call attention to the fallacy of such exaggeration. On the other hand, it is agreeable to hear such a man as Donders, of Utrecht, in Holland, saying that one must be energetic to keep up with the advances made in scientific researches in medicine, especially in

ophthalmic surgery, on the American side of the water; or Langenbeck, the ripest surgeon of Europe, testifying to the advantages of this or that operation simplified by American skill; or to see Helmholtz, with his natural modesty, quietly admiring Loring's latest ophthalmoscope, and its neat setting by Hunter, of New York.

There is here a manifest interest taken in the future of the graded or the university system of medical education in America. Comparisons made between the system here and at home will apply to any German university equally well. In all is there the same general plan of government under the dean or dekan. The professors are bought and sold at the highest prices between the universities. Instruction is by lectures, public and private, not by recitations, a method which succeeds so admirably with us. No students are quizzed publicly, except those who register their names as quiz-candidates, and who pay extra for the privilege. Quizzing takes place only in cliniques, and each student, as his name is called, enters the lecture-space, is personally addressed by the professor, and obtains a full view of the patient. His temporary relations with the professor are those of an attending to a consulting physician. The whole body of students never come together, as the system for the undergraduate is prescribed, and that for the post-graduate is elective. Popular men — and I mean by this men whose names are well known, though they may be poor lecturers — command naturally the largest audiences, as Virchow, Du Bois-Reymond, and Langenbeck. In giving didactic instruction the teachers, as a rule, sit and talk to the students. There is no attempt at rhetorical display, while there is a positive lack of illustration. The blackboard is used in every lecture-room, but with the usual defects, in contrast with charts, which obtain at the hands of every one not an artist. In the departments of histology, ophthalmology, and otology are these defects most noticeable. Not in Berlin alone, but, as I learn, in all German universities, is the method the same. Americans testify to a like simplicity in English and Scotch universities. As a partial substitute, small and usually very finely executed hand-plates are passed through a class, a method which presents the obvious inconvenience of a majority of the students studying the plate long after its description by the instructor.

The students are orderly, respectful, and patient. Accustomed at the beginning of the semester to a delay of three weeks, they submit without a murmur to the convenience of the faculty. It is to me a matter of profound surprise how the Germans, who justly deserve the reputation of successful achievements in medicine, find time to do anything. They begin their day as they begin their semester, late. They are always fifteen to twenty minutes behind their hour, and the semester closes three weeks short of the announced time. Indeed, this winter semester, which should continue in full operation from October 16, 1875, to April 1, 1876, will have lost eight or nine weeks by delay at the opening, the long holidays, and the antedating of the finish. American students naturally feel disappointed, and among themselves deplore the dilatoriness so apparent in the executive department of the university. German students are so accustomed, by their own personal habits and their expectations of the professors, to the existing arrangement that they rarely appear on the ground in full force until the middle of November, and they retire

early in March; they good-naturedly laugh at our faith in the statements of the university prospectus, and at our claims to get our money's worth. I may illustrate the condition of things by alluding to Virchow, the busiest man in Berlin, in popular estimation, but among the most delinquent in the estimation of his *confrères*. He is announced to hold a demonstrative course of pathological anatomy and microscopy in connection with instruction in pathological sections, Mondays, Wedne-days, and Saturdays, from eight to ten A. M.; also a practical course of pathological histology, Tues-days, Thursdays, and Fridays, from eight to ten A. M. He began November 8th, and, as the days were dark at eight o'clock in the morning, actually opened at 8.45 or nine. Through November, he personally met his large class daily from nine or ten, as it happened, for one and a half or two or two and a half hours. When you once get Virchow before a class, he stays until he finishes. The Pathologisches Institut is a building devoted to his work alone: it is set off in the Charité grounds by itself, and is a splendid tribute to Virchow's work in this department. But there are obstacles to the study of pathological anatomy and histology, even under such a master as Virchow. One can do nothing else that morning; what with waiting for his appearance, and listening to him two hours, the morning is entirely gone.

In December the days seemed to begin later and number less: Virchow met his class three and two times a week; since January twice a week has been his average. Fortunately, however, he has capable and willing assistants, who reflect him, the oldest of whom have been in his service for years. No one complains of getting too little of Virchow; it is the irregularity, the want of system, in his department, that is so palpable. I may safely say it would hardly be allowed in America, through the pressure of the board of government of our universities; while in Paris the students would cry out against it. Such are some of the disadvantages of studying in Berlin. They will be easily overcome even by ambitious, diligent Americans — and I rejoice to know that those here this winter command that compliment — when one makes up his mind to stay one or two semesters here, working under the conviction that these men must have time to develop themselves. They are not to be hurried, and will interest themselves in a student so soon as they find him specially interested in their department. Vienna receives the largest number of Americans, on account of its short-course system, none of the courses exceeding six weeks. There one can push through a batch of special courses in any one or more departments simultaneously, by devoting as many hours daily as he will, and then return, spending the time devoted to an ordinary pleasure trip to Europe. The arrangement has its merits and its demerits: merits, as to the saving of time and money; demerits, as to inordinate haste, and the loss of the best work of the day, namely, private study.

In brief, it is the concurrent testimony that the University of Berlin furnishes through Professor Virchow the most exhaustive and accurate pathological study in the world; aside from the two courses mentioned, he gives instruction in the pathological laboratory to students making special investigations in distinct departments of microscopy, each student having a separate desk, with a microscope, dissecting instruments, chemicals, water, and gas. In

surgery, Baron von Langenbeck's daily clinique has an enviable reputation, both in the amount and character of material, and in the manner of its handling. Langenbeck is sixty-five years old, and came from Kiel to Berlin in 1850. He came to take the chair which he continues to hold. His clinique in the old theatre in Ziegelstrasse is the most popular surgical clinique of the university. Bardeleben is a better, because a more painstaking instructor, whom the students accompany into the wards. Langenbeck's eminent points as a surgeon are his accurate diagnosis, his boldness as an operator, and his brilliant results. There is nothing brilliant about his operating; his movements are slow, and he says very little, but he operates with a reliance on long-established surgical principles, and with the confident determination of success, characteristic of a master. Three times a week he has an hour in akiurgery, in contradistinction from chirurgery.

In experimental acoustics and optics, Helmholtz has no equal. It is well known that he brought the ophthalmoscope before the scientific world in 1851, and that to him par excellence is due the present knowledge of the anatomy of the internal ear. He does not belong strictly to the medical department, and in fact is catalogued in the department of the natural sciences. To his efforts a few years ago must, however, be attributed the clew to the more recent developments in the scientific investigations of ophthalmology and otology. Helmholtz was in Heidelberg at the time of his work in these directions.

In many of the private offices of the professors and privat docents of this university hang four faces: Virchow, Langenbeck, Helmholtz, and Graefe. The last no longer lives, but his chair and, I may add, his spirit fell to Schweigger, who for many years was his assistant. Though Graefe devised many operations which outlive him, Schweigger performs them better. He is forty-two years of age, but already takes prominent rank among ophthalmic investigators. Mauthner, of Innsbruck, alludes to his concise handbook on the use of the ophthalmoscope as a complete guide for the student in ophthalmoscopy, paying an equal tribute to him and to the renowned Zauder. In addition, Schweigger has a text-book on augenheilkunde, which indicates his quick intuition and logical criticism.

Such are some of the features of the medical department of this university. In a future letter I will give you a sketch of the course of study, with some comments as to its manner of working; perhaps, while you are enthusiasts in Boston on the subject of medical education, and as you have lately noticed Billroth's last summer's book on the subject, it may be a timely article.

The public journals make the following announcement: The fifth congress of the German Surgical Society will meet in Berlin from April 19th to the 22d, a postponement from April 5th. A number of articles on the Lister antiseptic system is to be presented, which system Langenbeck thoroughly adopts in theory and practice.

The following bulletin appeared in the vestibule of the university at the opening of the semester, tacked within a broad, deep, black-painted case, whose front was spanned by a strong wire guard; I send it as a curiosity for your medical student readers: —

"Dr. Bardeleben prof. p. o.— Commilitonibus ornatissimus p. hoc sem. hibernum hasce offert scholas:

1. Publice: de *vulneribus*, die Saturn. h. xi.
2. Privatim:
   a. de *chirurgiâ*, diebus Lunæ, Mart., Mercur., Fovis, Veneris, h. xi.
   b. Exercitationes clinic. chirurgic. in Regio Caritatis nosocomio h. ix. usque ad hor. xi.

Auditorium est in alla Regio Caritat. noscomii parte, quæ 'Sommerlazarat' vocatur. Initium facturus sum die i M. November. Nomina daturis vacabo in noscomio illo hor. xi et xii, præterea in ædibus meis, 'Matthai Kirche Strasse,' 29, hor. iii. D. Berolini d. xvi M. Octobr., MDCCCLXXV."

Yours truly MED.

BERLIN, *March* 6, 1876.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING APRIL 8, 1876.

	Estimated Population.	Total Mortality for the Week.	Annual Death-Rate per 1000 during Week
New York	1,060,000	578	28
Philadelphia	800,000		
Brooklyn	500,000		
Boston	342,000	154	23
Providence	100,700	42	22
Worcester	50,000	18	19
Lowell	50,000	27	28
Cambridge	48,000	18	19
Fall River	45,000	20	23
Lawrence	35,000		
Lynn	33,000	12	19
Springfield	31,000	10	17
Salem	26,000	11	22

Normal Death-Rate, 17 per 1000.

WE would call attention to an advertisement which has been placed in the JOURNAL announcing a vacancy in the staff of assistants of the Eye and Ear Infirmary There are three positions: that of aural externe at a salary of $100 per annum, of ophthalmic externe at $100 per annum, and of ophthalmic interne at $200 per annum, with room in the infirmary. At the expiration of one year the ophthalmic externe is entitled to the position of interne if he has fulfilled his duties satisfactorily. The term of service begins July 1st. Two positions, therefore, are each year open to third-year students and graduates on competitive examination.

BOOKS AND PAMPHLETS RECEIVED. — Atlas of Skin Diseases. By Tilbury Fox, M. D., F. R. C. P. Parts IV. and V. Philadelphia: Lindsay and Blakiston. 1876. (From A. Williams & Co.)

Normal Urethra and its Constrictions in Relation to Strictures of Large Calibre. By Robert F. Weir, M. D. (Reprinted from the New York Medical Journal, April, 1876.)